

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 09/884,901 A  
Source: DFW16  
Date Processed by STIC: 09/22/2005

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 09/22/2005

PATENT APPLICATION: US/09/884,901A

TIME: 09:55:14

Input Set : A:\UOFW17396seq.txt

Output Set: N:\CRF4\09222005\I884901A.raw

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3 <110> APPLICANT: Miao, Carol
4     Kay, Mark
6 <120> TITLE OF INVENTION: Liver-Specific Gene Expression Cassettes, and Methods of Use
8 <130> FILE REFERENCE: UOFW-1-17396
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/884,901A
C--> 10 <141> CURRENT FILING DATE: 2001-06-18
10 <150> PRIOR APPLICATION NUMBER: US 60/212,902
11 <151> PRIOR FILING DATE: 2000-06-20
13 <160> NUMBER OF SEQ ID NOS: 18
15 <170> SOFTWARE: PatentIn version 3.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 1438
19 <212> TYPE: DNA
20 <213> ORGANISM: HomoSapien
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25 atgctgtctt cttcactaaa ttttgattac atgatttgac agcaatattg aagagtctaa      120
27 cagccagcac gcaggttggt aagtactggt tctttgtag ctaggttttc ttcttcttca      180
29 tttttaaaac taaatagatc gacaatgctt atgatgcatt tatgtttaat aaacactggt      240
31 cagttcatga tttggctcatg taattcctgt tagaaaacat tcatctcctt ggtttaaaaa      300
33 aattaaaagt gggaaaacaa agaaatagca gaatatagtg aaaaaaata accacattat      360
35 ttttggttg acttaccact ttgaaatcaa aatgggaaac aaaagcacia acaatggcct      420
37 tatttacaca aaaagtctga ttttaagata tatgacattt caagggtttca gaagtatgta      480
39 atgaggtgtg tctctaattt tttaaattat atatcttcaa tttaaagttt tagttaaaac      540
41 ataaagatta acctttcatt agcaagctgt tagttatcac caaagctttt catggattag      600
43 gaaaaaatca ttttgtctct atgtcaaaca tcttgaggtt gatatttggg gaaacacaat      660
45 actcagttga gttccctagg ggagaaaagc aagcttaaga attgacataa agagtaggaa      720
47 gttagctaata gcaacatata tcactttggt ttttcacaac tacagtgact ttatgtattt      780
49 cccagaggaa ggcatacagg gaagaaatta tcccatttgg acaaacagca tgttctcaca      840
51 ggaagcattt atcacactta cttgtcaact ttctagaatc aaatctagta gctgacagta      900
53 ccaggatcag ggggtgccaac cctaagcacc cccagaaagc tgactggccc tgtgggtccc      960
55 actccagaca tgatgtcagc tgtgaaatcg acgtcgctgg accataatta ggcttctggt      1020
57 cttcaggaga catttggttca aagtcatttg ggcaaccata ttctgaaaac agcccagcca      1080
59 ggggtgatgga tcacttttga aagatcttca atgagctatt ttcaagtgat gacaaagtgt      1140
61 gaagttaacc gctcatttga gaactttctt tttcatccaa agtaaattca aatatgatta      1200
63 gaaatctgac cttttattac tgggaattctc ttgactaaaa gtaaaattga attttaattc      1260
65 ctaaatctcc atgtgtatac agtactgtgg gaacatcaca gattttggct ccatgcccta      1320
67 aagagaaatt ggctttcaga ttatttggat taaaaacaaa gactttctta agagatgtaa      1380
69 aattttcatg atgttttctt ttttgctaaa actaaagaat tattctttta catttcag      1438
72 <210> SEQ ID NO: 2
73 <211> LENGTH: 1413
74 <212> TYPE: DNA
75 <213> ORGANISM: HomoSapien

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83                                     Met Gln Arg Val Asn Met Ile Met
84                                     1           5
86 gca gaa tca cca ggc ctc atc acc atc tgc ctt tta gga tat cta ctc      101
87 Ala Glu Ser Pro Gly Leu Ile Thr Ile Cys Leu Leu Gly Tyr Leu Leu
88     10           15           20
90 agt gct gaa tgt aca gtt ttt ctt gat cat gaa aac gcc aac aaa att      149
91 Ser Ala Glu Cys Thr Val Phe Leu Asp His Glu Asn Ala Asn Lys Ile
92 25           30           35           40
94 ctg aat cgg cca aag agg tat aat tca ggt aaa ttg gaa gag ttt gtt      197
95 Leu Asn Arg Pro Lys Arg Tyr Asn Ser Gly Lys Leu Glu Glu Phe Val
96           45           50           55
98 caa ggg aac ctt gag aga gaa tgt atg gaa gaa aag tgt agt ttt gaa      245
99 Gln Gly Asn Leu Glu Arg Glu Cys Met Glu Glu Lys Cys Ser Phe Glu
100           60           65           70
102 gaa gca cga gaa gtt ttt gaa aac act gaa aga aca act gaa ttt tgg      293
103 Glu Ala Arg Glu Val Phe Glu Asn Thr Glu Arg Thr Thr Glu Phe Trp
104           75           80           85
106 aag cag tat gtt gat gga gat cag tgt gag tcc aat cca tgt tta aat      341
107 Lys Gln Tyr Val Asp Gly Asp Gln Cys Glu Ser Asn Pro Cys Leu Asn
108     90           95           100
110 ggc ggc agt tgc aag gat gac att aat tcc tat gaa tgt tgg tgt ccc      389
111 Gly Gly Ser Cys Lys Asp Asp Ile Asn Ser Tyr Glu Cys Trp Cys Pro
112 105           110           115           120
114 ttt gga ttt gaa gga aag aac tgt gaa tta gat gta aca tgt aac att      437
115 Phe Gly Phe Glu Gly Lys Asn Cys Glu Leu Asp Val Thr Cys Asn Ile
116           125           130           135
118 aag aat ggc aga tgc gag cag ttt tgt aaa aat agt gct gat aac aag      485
119 Lys Asn Gly Arg Cys Glu Gln Phe Cys Lys Asn Ser Ala Asp Asn Lys
120           140           145           150
122 gtg gtt tgc tcc tgt act gag gga tat cga ctt gca gaa aac cag aag      533
123 Val Val Cys Ser Cys Thr Glu Gly Tyr Arg Leu Ala Glu Asn Gln Lys
124           155           160           165
126 tcc tgt gaa cca gca gtg cca ttt cca tgt gga aga gtt tct gtt tca      581
127 Ser Cys Glu Pro Ala Val Pro Phe Pro Cys Gly Arg Val Ser Val Ser
128           170           175           180
130 caa act tct aag ctc acc cgt gct gag gct gtt ttt cct gat gtg gac      629
131 Gln Thr Ser Lys Leu Thr Arg Ala Glu Ala Val Phe Pro Asp Val Asp
132 185           190           195           200
134 tat gta aat tct act gaa gct gaa acc att ttg gat aac atc act caa      677
135 Tyr Val Asn Ser Thr Glu Ala Glu Thr Ile Leu Asp Asn Ile Thr Gln
136           205           210           215
138 agc acc caa tca ttt aat gac ttc act cgg gtt gtt ggt gga gaa gat      725
139 Ser Thr Gln Ser Phe Asn Asp Phe Thr Arg Val Val Gly Gly Glu Asp
140           220           225           230

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142 gcc aaa cca ggt caa ttc cct tgg cag gtt gtt ttg aat ggt aaa gtt      773
143 Ala Lys Pro Gly Gln Phe Pro Trp Gln Val Val Leu Asn Gly Lys Val
144      235      240      245
146 gat gca ttc tgt gga ggc tct atc gtt aat gaa aaa tgg att gta act      821
147 Asp Ala Phe Cys Gly Gly Ser Ile Val Asn Glu Lys Trp Ile Val Thr
148      250      255      260
150 gct gcc cac tgt gtt gaa act ggt gtt aaa att aca gtt gtc gca ggt      869
151 Ala Ala His Cys Val Glu Thr Gly Val Lys Ile Thr Val Val Ala Gly
152 265      270      275      280
154 gaa cat aat att gag gag aca gaa cat aca gag caa aag cga aat gtg      917
155 Glu His Asn Ile Glu Glu Thr Glu His Thr Glu Gln Lys Arg Asn Val
156      285      290      295
158 att cga att att cct cac cac aac tac aat gca gct att aat aag tac      965
159 Ile Arg Ile Ile Pro His His Asn Tyr Asn Ala Ala Ile Asn Lys Tyr
160      300      305      310
162 aac cat gac att gcc ctt ctg gaa ctg gac gaa ccc tta gtg cta aac      1013
163 Asn His Asp Ile Ala Leu Leu Glu Leu Asp Glu Pro Leu Val Leu Asn
164      315      320      325
166 agc tac gtt aca cct att tgc att gct gac aag gaa tac acg aac atc      1061
167 Ser Tyr Val Thr Pro Ile Cys Ile Ala Asp Lys Glu Tyr Thr Asn Ile
168      330      335      340
170 ttc ctc aaa ttt gga tct ggc tat gta agt ggc tgg gga aga gtc ttc      1109
171 Phe Leu Lys Phe Gly Ser Gly Tyr Val Ser Gly Trp Gly Arg Val Phe
172 345      350      355      360
174 cac aaa ggg aga tca gct tta gtt ctt cag tac ctt aga gtt cca ctt      1157
175 His Lys Gly Arg Ser Ala Leu Val Leu Gln Tyr Leu Arg Val Pro Leu
176      365      370      375
178 gtt gac cga gcc aca tgt ctt cga tct aca aag ttc acc atc tat aac      1205
179 Val Asp Arg Ala Thr Cys Leu Arg Ser Thr Lys Phe Thr Ile Tyr Asn
180      380      385      390
182 aac atg ttc tgt gct ggc ttc cat gaa gga ggt aga gat tca tgt caa      1253
183 Asn Met Phe Cys Ala Gly Phe His Glu Gly Gly Arg Asp Ser Cys Gln
184      395      400      405
186 gga gat agt ggg gga ccc cat gtt act gaa gtg gaa ggg acc agt ttc      1301
187 Gly Asp Ser Gly Gly Pro His Val Thr Glu Val Glu Gly Thr Ser Phe
188      410      415      420
190 tta act gga att att agc tgg ggt gaa gag tgt gca atg aaa ggc aaa      1349
191 Leu Thr Gly Ile Ile Ser Trp Gly Glu Glu Cys Ala Met Lys Gly Lys
192 425      430      435      440
194 tat gga ata tat acc aag gta tcc cgg tat gtc aac tgg att aag gaa      1397
195 Tyr Gly Ile Tyr Thr Lys Val Ser Arg Tyr Val Asn Trp Ile Lys Glu
196      445      450      455
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199 Lys Thr Lys Leu Thr
200      460
203 <210> SEQ ID NO: 3
204 <211> LENGTH: 461
205 <212> TYPE: PRT
206 <213> ORGANISM: HomoSapien

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215 20 25 30
218 Asp His Glu Asn Ala Asn Lys Ile Leu Asn Arg Pro Lys Arg Tyr Asn
219 35 40 45
222 Ser Gly Lys Leu Glu Glu Phe Val Gln Gly Asn Leu Glu Arg Glu Cys
223 50 55 60
226 Met Glu Glu Lys Cys Ser Phe Glu Glu Ala Arg Glu Val Phe Glu Asn
227 65 70 75 80
230 Thr Glu Arg Thr Thr Glu Phe Trp Lys Gln Tyr Val Asp Gly Asp Gln
231 85 90 95
234 Cys Glu Ser Asn Pro Cys Leu Asn Gly Gly Ser Cys Lys Asp Asp Ile
235 100 105 110
238 Asn Ser Tyr Glu Cys Trp Cys Pro Phe Gly Phe Glu Gly Lys Asn Cys
239 115 120 125
242 Glu Leu Asp Val Thr Cys Asn Ile Lys Asn Gly Arg Cys Glu Gln Phe
243 130 135 140
246 Cys Lys Asn Ser Ala Asp Asn Lys Val Val Cys Ser Cys Thr Glu Gly
247 145 150 155 160
250 Tyr Arg Leu Ala Glu Asn Gln Lys Ser Cys Glu Pro Ala Val Pro Phe
251 165 170 175
254 Pro Cys Gly Arg Val Ser Val Ser Gln Thr Ser Lys Leu Thr Arg Ala
255 180 185 190
258 Glu Ala Val Phe Pro Asp Val Asp Tyr Val Asn Ser Thr Glu Ala Glu
259 195 200 205
262 Thr Ile Leu Asp Asn Ile Thr Gln Ser Thr Gln Ser Phe Asn Asp Phe
263 210 215 220
266 Thr Arg Val Val Gly Gly Glu Asp Ala Lys Pro Gly Gln Phe Pro Trp
267 225 230 235 240
270 Gln Val Val Leu Asn Gly Lys Val Asp Ala Phe Cys Gly Gly Ser Ile
271 245 250 255
274 Val Asn Glu Lys Trp Ile Val Thr Ala Ala His Cys Val Glu Thr Gly
275 260 265 270
278 Val Lys Ile Thr Val Val Ala Gly Glu His Asn Ile Glu Glu Thr Glu
279 275 280 285
282 His Thr Glu Gln Lys Arg Asn Val Ile Arg Ile Ile Pro His His Asn
283 290 295 300
286 Tyr Asn Ala Ala Ile Asn Lys Tyr Asn His Asp Ile Ala Leu Leu Glu
287 305 310 315 320
290 Leu Asp Glu Pro Leu Val Leu Asn Ser Tyr Val Thr Pro Ile Cys Ile
291 325 330 335
294 Ala Asp Lys Glu Tyr Thr Asn Ile Phe Leu Lys Phe Gly Ser Gly Tyr
295 340 345 350
298 Val Ser Gly Trp Gly Arg Val Phe His Lys Gly Arg Ser Ala Leu Val
299 355 360 365
302 Leu Gln Tyr Leu Arg Val Pro Leu Val Asp Arg Ala Thr Cys Leu Arg
303 370 375 380

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306 Ser Thr Lys Phe Thr Ile Tyr Asn Asn Met Phe Cys Ala Gly Phe His
307 385                      390                      395                      400
310 Glu Gly Gly Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro His Val
311                      405                      410                      415
314 Thr Glu Val Glu Gly Thr Ser Phe Leu Thr Gly Ile Ile Ser Trp Gly
315                      420                      425                      430
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323                      450                      455                      460
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327 <211> LENGTH: 771
328 <212> TYPE: DNA
329 <213> ORGANISM: HomoSapien
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336 ctactcatgt ccctaaaatg ggcaaacatt gcaagcagca aacagcaaac acacagccct      180
338 cctgcctgc tgacctgga gctggggcag aggtcagaga cctctctggg cccatgccac      240
340 ctccaacatc cactcgaccc cttggaattt cgggtggagag gagcagaggt tgtcctggcg      300
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350 ctcatctcac cacaaccttc cctgcctca gcctcccaag tagctgggat tacaagcatg      600
352 tgccaccaca cctggctaata tttctatttt tagtagagac gggtttctcc atgttggtca      660
354 gcctcagcct cccaagtaac tgggattaca ggctgtgcc accacaccgg gctaattttt      720
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362 <213> ORGANISM: HomoSapien
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369 cgctgtgggt tctgagccag gtacaatgac tcctttcggt aagtgcagtg gaagctgtac      180
371 actgcccagg caaagcgtcc gggcagcgta ggcgggcgac tcagatccca gccagtggac      240
373 ttagcccttg tttgctcttc cgataactgg ggtgacctg gttaatatc accagcagcc      300
375 tccccggtt cccctctgga tccactgctt aaatacggac gaggacaggg cctgtctcc      360
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381 <211> LENGTH: 282
382 <212> TYPE: DNA
383 <213> ORGANISM: Bos taurus
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388 cccgtgcctt ccttgacctt ggaaggtgcc actcccactg tcctttccta ataaaatgag      120
390 gaaattgcat cgcattgtct gagtaggtgt cattctattc tgggggggtg ggtggggcag      180
392 gacagcaagg gggaggattg ggaagacaat agcaggcatg ctggggatgc ggtgggctct      240

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**VERIFICATION SUMMARY**

DATE: 09/22/2005

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Output Set: N:\CRF4\09222005\I884901A.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date